SUPERSCOPE®

SOLID STATE
STEREO AMPLIFIER

Model A-245 (E)

SERVICE DATA

—May. 1973—

SUPERSCOPE INC.
8150 VINELAND AVENUE.
SUN VALLEY, CALIFORNIA · 91352 · U.S.A.

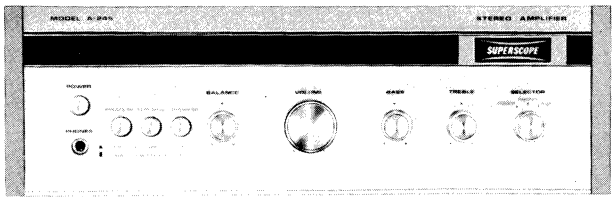


TABLE OF CONTENTS

Technical Specifications 1
Alignment Procedure 2
Circuit Board Diagram 2
Schematic Diagram 3
Exploded Diagram of The Mechanism 4
Parts List ..... 5~7
Voltage Conversion 7

TECHNICAL SPECIFICATIONS

<AMPLIFIER SECTION>

Instantaneous Peak Music Power . . . . . 50W at 8 ohms
E.I.A. Music Power . . . . . 35W at 8 ohms
Total Music Power (I.H.F) . . . . . 30W at 8 ohms
Continuous Power (R.M.S) . . . . . **10W + 10W at 8 ohms**
Harmonic Distortion at 1KHz . . . Less than 0.5% to 10W
Power Bandwidth . . . . . 30–30,000Hz at 8 ohms at 1% THD (–1 dB)
Frequency Response . . . . . 20–40,000 Hz (–3 dB)
Signal to Noise Ratio . . . . . AUX. 70 dB, MAG. 60 dB
Damping Factor . . . . . 30 at 8 ohms
Bass Control . . . . . ±10 dB at 100 Hz
Treble Control . . . . . ±10 dB at 10,000 Hz
Loudness Control . . . . . +8 dB at 100 Hz, +4 dB at 10,000 Hz
Input Sensitivity . . . MAG. 2.5mV to 10W OUTPUT, CER 150mV to 10W OUTPUT, TUNER 100mV to 10W OUTPUT, AUX. 100mV to 10W OUTPUT, TAPE 200mV to 10W OUTPUT

<AUXILIARY CIRCUIT>

Tape Monitor Switch, Loudness Control Switch, Boost-Cut Separate Bass and Treble Controls, Speaker System Selector, Stereo Headphones Jack, Switched Auxiliary AC Outlet.

<Solid State Devices>

Transistors 18
Diodes 10

<Power Requirements>

Power Voltage . . . . AC 110, 120, 220, 240V 50/60 Hz
Power Consumption . . . . . 60 W maximum

<Dimensions>

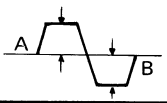
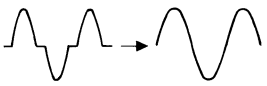
Width . . . . . 14-11/32"
Depth . . . . . 7-1/8"
Height . . . . . 4-9/16"
Weight . . . . . 8 lbs

* These specifications and exterior designs may be changed for improvement without notice.

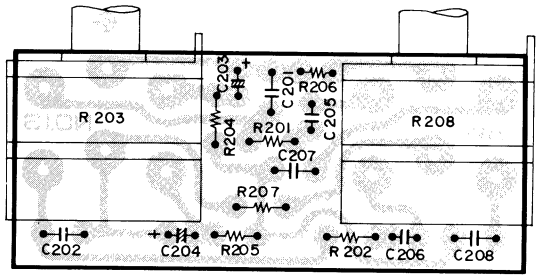
ALIGNMENT PROCEDURE

1. Set the volume control at maximum, bass, treble and balance controls at mechanical center position, speakers switch in the position "MAIN" while switching the tape monitor and loudness control switches off.
2. Connect 8 ohms dummy load resistors (10–20W, non-inductive preferably) to each R and L channel "MAIN" output terminals of the unit.

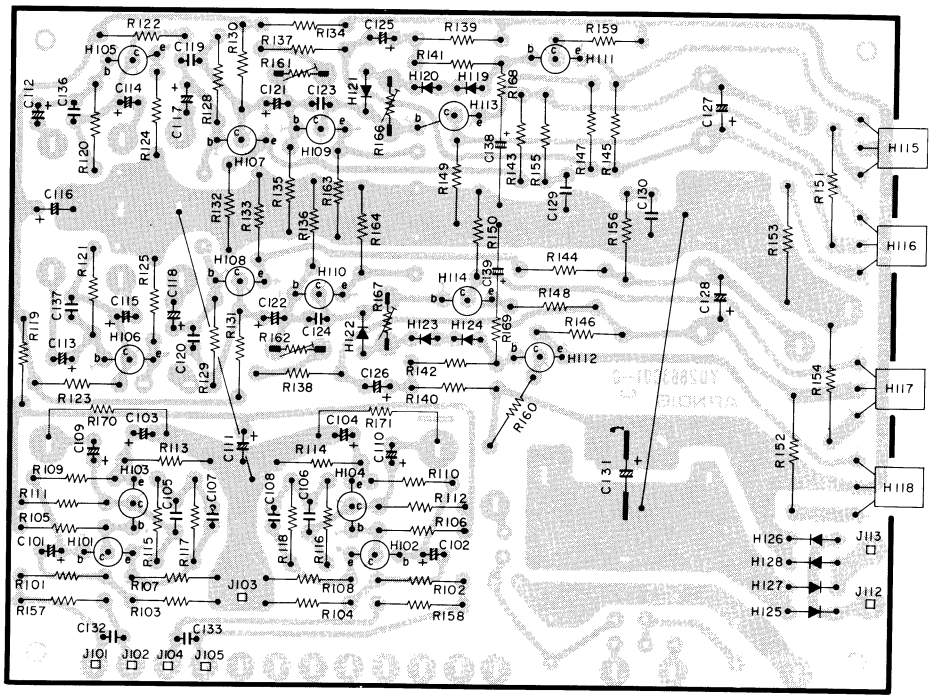
(Selector Switch in the position "AUX")

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Adjustment
1	Audio Generator to AUX terminal	1,000 Hz	Oscilloscope to output terminals	Gradually increase output level of the audio generator and adjust. R161 and R162 for symmetrical clipping level.  A = B
2				Adjust R166 and R167 for not having any evidence of crossover distortion at 500mW output. Caution: Avoid excessive bias current (10mA at no signal). 

CIRCUIT BOARD DIAGRAM (TOP VIEW)



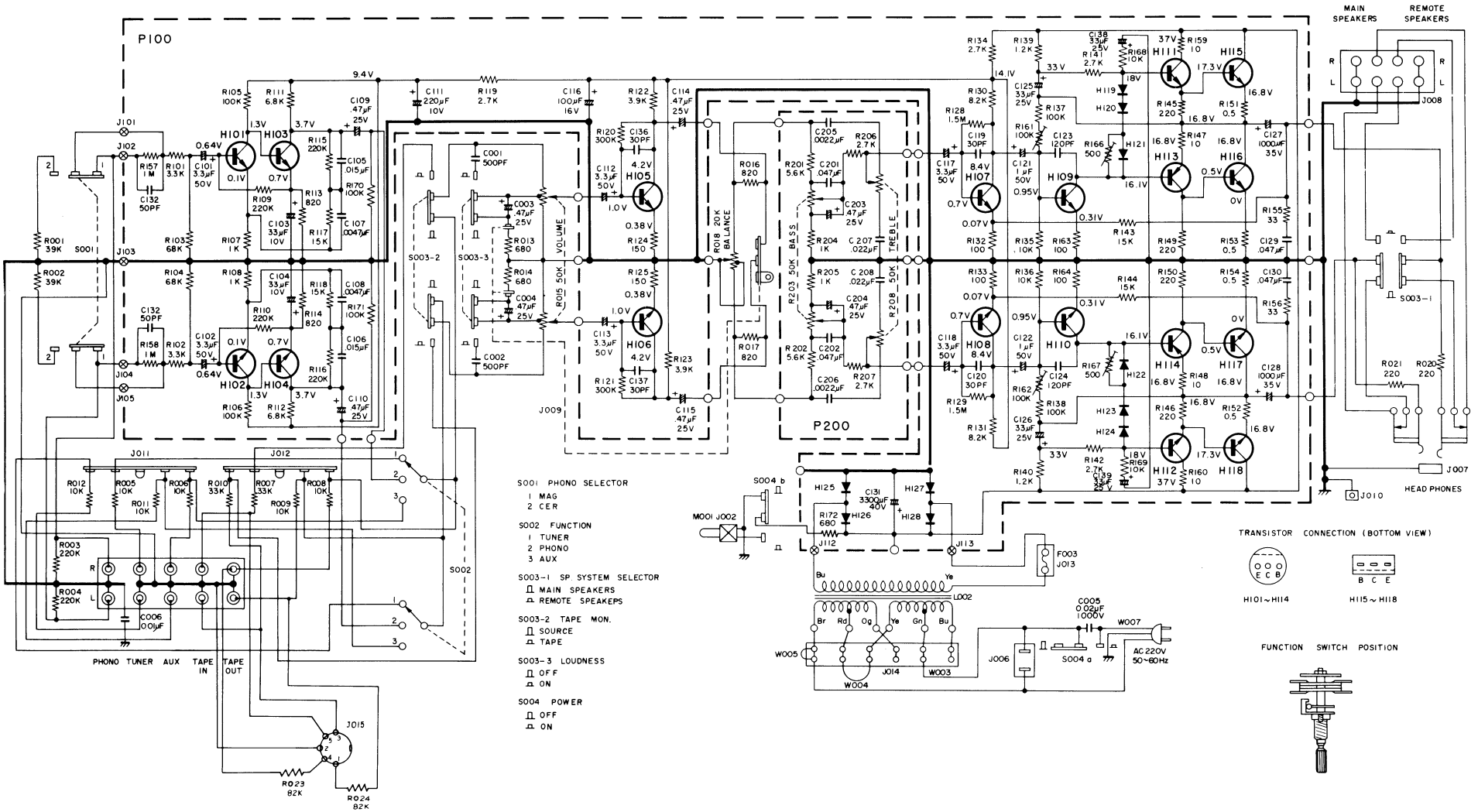
Tone Control Block



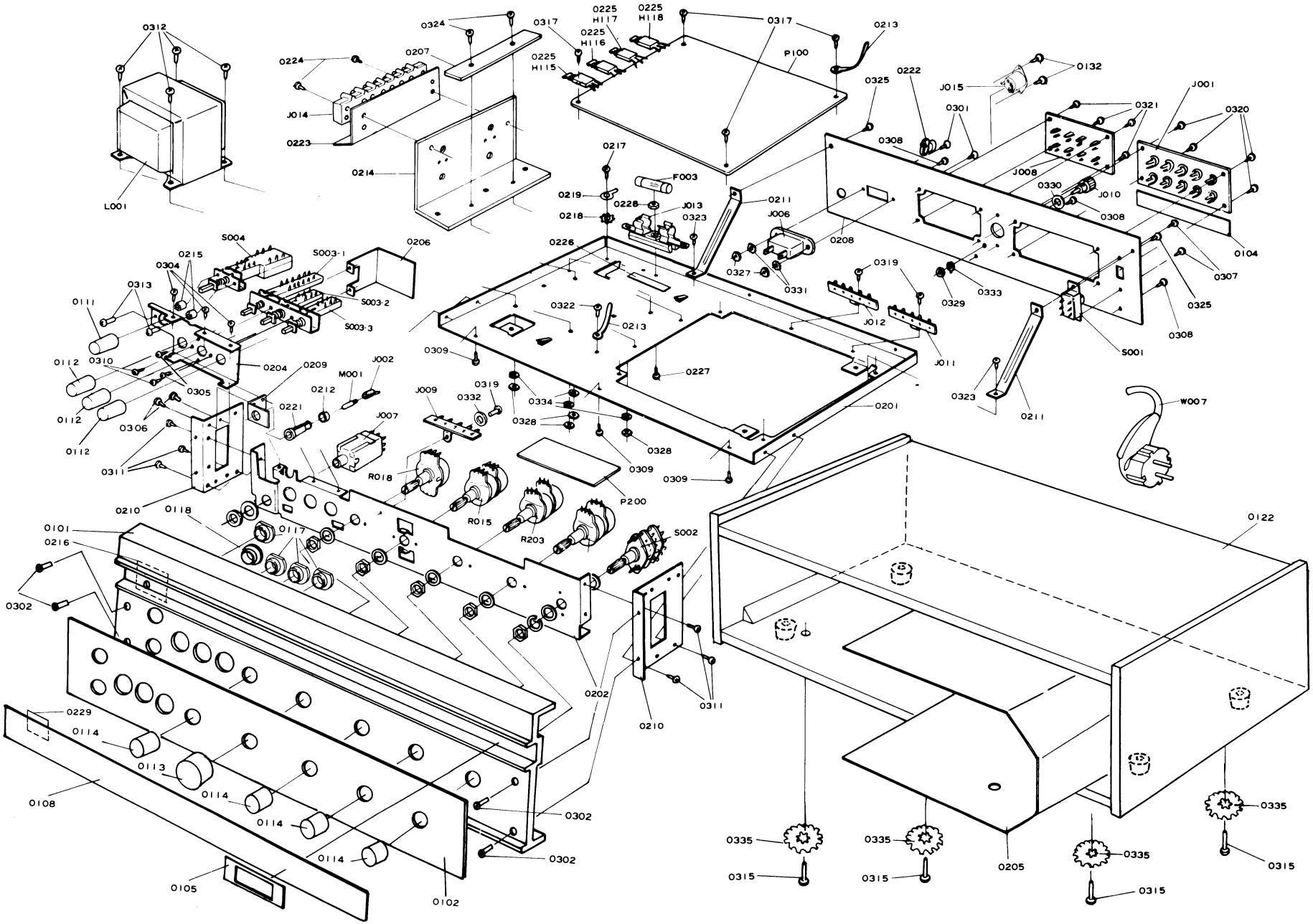
Audio Amp. Block

SCHEMATIC DIAGRAM

H101, H102	H103, H104	H105, H106	H107, H108	H109, H110	H111, H112	H113, H114	H115 ~ H118	H119 ~ H124	H125 ~ H128
HT307321A (2SC732 GR)	HT307331D (2SC733 BL)	HT307331C (2SC733 GR)	HT303720A (2SC372 Y)	HT307341C (2SC734 Y)	HT307341B (2SC734 O)	HT105611B (2SA561 O)	HT402351B (2SD235 O)	HV0000705 (S-3016R)	HD2000110 (IS-1665)



EXPLODED DIAGRAM OF THE MECHANISM



PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION
		MECHANICAL PARTS
A	287706340	Escutcheon Ass'y
0101	287706301	Escutcheon
0102	287706302	Escutcheon
0105	287625150	Badge K
0108	287715801	Window
0117	286025901	Bush x 4
0118	273125901	Bush
0210	287616002	Bracket x 2
0302	51040306A	F.H.M. Screw x 4
0104	287726502	Indicator
0111	287615407	Knob (Power Switch)
0112	287615409	Knob x 3
0113	287615402	Knob (Volume)
0114	287615406	Knob x 4
0122	287606450	Case K
0132	51570308B	P. Tapt Screw x 2
0201	279210501	Chassis
0202	280416001	Bracket (Front)
0204	280416003	Bracket
0205	287610901	Shield
0206	280410901	Shield
0207	279200501	Clamper
B	287716040	Bracket Ass'y
0209	287716001	Bracket
0221	276325901	Bush
0212	71400219Q	Bush
0211	254910401	Retainer x 2
0213	138200503	Clamper x 2
0214	267326701	Heat Sink
0215	273105502	Collar x 4
0216	287605301	Cover
0217	51570306B	P. Tapt Screw
0218	54050300R	T.L. Washer OR
0219	62031650W	Lug
0222	145525905	Bush
0223	286412001	Insulator
0224	51380316P	P.H. Tapt Screw x 2
0225	268611801	Spacer x 4
0226	274726503	Indicator
0227	51062608E	P.H.M. Screw
0228	53112603E	Hexagon Nut
0229	287605302	Cover
0232	257886101	CAUTION Label
0301	51042608A	F.H.M. Screw x 2
0303	62031650W	Lug
0304	51062605A	P.H.M. Screw x 3
0305	51062605A	P.H.M. Screw x 2
0306	51060305A	P.H.M. Screw x 2
0307	51060305A	P.H.M. Screw x 2
0308	51060305A	P.H.M. Screw x 3
0309	51060305A	P.H.M. Screw x 3
0310	51060305A	P.H.M. Screw x 2
0311	51060305A	P.H.M. Screw x 6
0312	51060308A	P.H.M. Screw x 4
0313	51060310A	P.H.M. Screw x 2
0314	54050300R	T.L. Washer OR

REF. DESIG.	PART NO.	DESCRIPTION
0315	51100410A	B.H.M. Screw x 4
0316	51570310B	P. Tapt Screw
0317	51570306B	P. Tapt Screw x 4
0318	51570306B	P. Tapt Screw
0319	51570306B	P. Tapt Screw x 3
0320	51570306B	P. Tapt Screw x 3
0321	51570306B	P. Tapt Screw x 4
0322	51570306B	P. Tapt Screw
0323	51570306B	P. Tapt Screw x 2
0324	51570315B	P. Tapt Screw x 2
0325	51380305P	P.H. Tapt Screw x 2
0326	53110303E	Hexagon Nut
0327	53112603E	Hexagon Nut x 2
0328	53110303E	Hexagon Nut x 4
0329	53110303E	Hexagon Nut
0330	54020301E	Flat Washer P
0331	54052600R	T.L. Washer OR x 2
0332	54050300R	T.L. Washer OR
0333	54050300R	T.L. Washer OR
0334	54040302A	Spring Washer x 4
0335	54080400R	T.L. Washer RR x 4
		ELECTRICAL PARTS
P100	YD2863001	P.W. Board
	ZZ 2877801	P.W. Board Ass'y
		RESISTORS (All resistors are ±10%, ¼W and carbon type, unless otherwise indicated.)
R101	RT1033214	3.3KΩ
R102	RT1033214	3.3KΩ
R103	RT1068314	68KΩ
R104	RT1068314	68KΩ
R105	RT1010414	100KΩ
R106	RT1010414	100KΩ
R107	RT1010214	1KΩ
R108	RT1010214	1KΩ
R109	RT1022414	220KΩ
R110	RT1022414	220KΩ
R111	RT1068214	6.8KΩ
R112	RT1068214	6.8KΩ
R113	RT1012214	1.2KΩ
R114	RT1012214	1.2KΩ
R115	RT1022414	220KΩ
R116	RT1022414	220KΩ
R117	RT1015314	15KΩ
R118	RT1015314	15KΩ
R119	RT1027214	2.7KΩ
R120	RT1030414	300KΩ
R121	RT1030414	300KΩ
R122	RT1039214	3.9KΩ
R123	RT1039214	3.9KΩ
R124	RT1015114	150Ω
R125	RT1015114	150Ω
R128	RT1015514	1.5MΩ
R129	RT1015514	1.5MΩ
R130	RT1082214	8.2KΩ
R131	RT1082214	8.2KΩ
R132	RT1010114	100Ω
R133	RT1010114	100Ω
R134	RT1027214	2.7KΩ
R135	RT1010314	10KΩ
R136	RT1010314	10KΩ

REF. DESIG.	PART NO.	DESCRIPTION
R137	RT1010414	100KΩ
R138	RT1010414	100KΩ
R139	RT1012214	1.2KΩ
R140	RT1012214	1.2KΩ
R141	RT1027214	2.7KΩ
R142	RT1027214	2.7KΩ
R143	RT0512314	12KΩ ±5%, ¼W
R144	RT0512314	12KΩ ±5%, ¼W
R145	RC1022112	Solid, 220Ω ±10%, ½W
R146	RC1022112	Solid, 220Ω ±10%, ½W
R147	RC1010012	Solid, 10Ω ±10%, ½W
R148	RC1010012	Solid, 10Ω ±10%, ½W
R149	RC1022112	Solid, 220Ω ±10%, ½W
R150	RC1022112	Solid, 220Ω ±10%, ½W
R151	GW1050202	0.5Ω ±10%, 2W
R152	GW1050202	0.5Ω ±10%, 2W
R153	GW1050202	0.5Ω ±10%, 2W
R154	GW1050202	0.5Ω ±10%, 2W
R155	RC1033012	Solid, 33Ω ±10%, ½W
R156	RC1033012	Solid, 33Ω ±10%, ½W
R157	RT1010514	1MΩ
R158	RT1010514	1MΩ
R159	RC1010012	Solid, 10Ω ±10%, ½W
R160	RC1010012	Solid, 10Ω ±10%, ½W
R161	RA0104006	Trimmer, 100KΩ
R162	RA0104006	Trimmer, 100KΩ
R163	RT1010114	100Ω
R164	RT1010114	100Ω
R166	RA0501001	Trimmer, 500Ω
R167	RA0501001	Trimmer, 500Ω
R168	RT1010314	10KΩ
R169	RT1010314	10KΩ
R170	RT1010414	100KΩ
R171	RT1010414	100KΩ
R172	RJ1056103	560Ω, 3W
		CAPACITORS
C101	EA3350509	Elect., 3.3μF, 50V
C102	EA3350509	Elect., 3.3μF, 50V
C103	EA3360109	Elect., 33μF, 10V
C104	EA3360109	Elect., 33μF, 10V
C105	DF1715301	Mylar, 0.015μF ±20%
C106	DF1715301	Mylar, 0.015μF ±20%
C107	DF1747201	Mylar, 0.0047μF ±20%
C108	DF1747201	Mylar, 0.0047μF ±20%
C109	EM4740251	Elect., 0.47μF, 25V
C110	EM4740251	Elect., 0.47μF, 25V
C111	EA2270109	Elect., 220μF, 10V
C112	EA3350509	Elect., 3.3μF, 50V
C113	EA3350509	Elect., 3.3μF, 50V
C114	EM4740251	Elect., 0.47μF, 25V
C115	EM4740251	Elect., 0.47μF, 25V
C116	EA1070169	Elect., 100μF, 16V
C117	EA3350509	Elect., 3.3μF, 50V
C118	EA3350509	Elect., 3.3μF, 50V
C119	DD1630001	Ceramic, 30pF, ±10%
C120	DD1630001	Ceramic, 30pF, ±10%
C121	EA1050509	Elect., 1μF, 50V
C122	EA1050509	Elect., 1μF, 50V
C123	DD1650001	Ceramic, 50pF ±10%
C124	DD1650001	Ceramic, 50pF ±10%
C125	EA3360259	Elect., 33μF, 25V
C126	EA3360259	Elect., 33μF, 25V

REF. DESIG.	PART NO.	DESCRIPTION
C127	EC1080353	Elect., 1000μF, 35V
C128	EC1080353	Elect., 1000μF, 35V
C129	DF1747301	Mylar, 0.047μF ±20%
C130	DF1747301	Mylar, 0.047μF ±20%
C131	EC3380401	Elect., 3300μF, 40V
C132	DD1650001	Ceramic, 50pF ±10%
C133	DD1650001	Ceramic, 50pF ±10%
C134	EA1070109	Elect., 100μF, 10V
C135	EA1070109	Elect., 100μF, 10V
C136	DD1630001	Ceramic, 30pF ±10%
C137	DD1630001	Ceramic, 30pF ±10%
C138	EA3360259	Elect., 33μF, 25V
C139	EA3360259	Elect., 33μF, 25V
		SEMICONDUCTORS
H101	HT307321A	Transistor, 2SC732 (GR)
H102	HT307321A	Transistor, 2SC732 (GR)
H103	HT307331D	Transistor, 2SC733 (BL)
H104	HT307331D	Transistor, 2SC733 (BL)
H105	HT307331C	Transistor, 2SC733 (GR)
H106	HT307331C	Transistor, 2SC733 (GR)
H107	HT303720A	Transistor, 2SC372 (Y)
H108	HT303720A	Transistor, 2SC372 (Y)
H109	HT307341C	Transistor, 2SC734 (Y)
H110	HT307341C	Transistor, 2SC734 (Y)
H111	HT307341B	Transistor, 2SC734 (O)
H112	HT307341B	Transistor, 2SC734 (O)
H113	HT105611B	Transistor, 2SA561 (O)
H114	HT105611B	Transistor, 2SA561 (O)
H115	HT402351B	Transistor, 2SD235 (O)
H116	HT402351B	Transistor, 2SD235 (O)
H117	HT402351B	Transistor, 2SD235 (O)
H118	HT402351B	Transistor, 2SD235 (O)
H119	HV0000705	Varistor, S-3016R
H120	HV0000705	Varistor, S-3016R
H121	HV0000705	Varistor, S-3016R
H122	HV0000705	Varistor, S-3016R
H123	HV0000705	Varistor, S-3016R
H124	HV0000705	Varistor, S-3016R
H125	HD2000110	Diode, 1S-1665
H126	HD2000110	Diode, 1S-1665
H127	HD2000110	Diode, 1S-1665
H128	HD2000110	Diode, 1S-1665
		MISCELLANEOUS
J101	YP1000094	Plug
J102	YP1000094	Plug
J103	YP1000094	Plug
J104	YP1000094	Plug
J105	YP1000094	Plug
J112	YP1000094	Plug
J113	YP1000094	Plug
P200	YD2792002	P.W. Board
	ZZ2861102	P.W. Board Ass'y
		RESISTORS
R201	RT1056214	Carbon, 5.6KΩ ±10%, ¼W
R202	RT1056214	Carbon, 5.6KΩ ±10%, ¼W
R203	RM0503038	Variable, 50KΩ (A) x 2, Bass
R204	RT1010214	Carbon, 1KΩ ±10%, ¼W
R205	RT1010214	Carbon, 1KΩ ±10%, ¼W
R206	RT1027214	Carbon, 2.7KΩ ±10%, ¼W
R207	RT1027214	Carbon, 2.7KΩ ±10%, ¼W
R208	RM0503038	Variable, 50KΩ (A) x 2, Treble

REF. DESIG.	PART NO.	DESCRIPTION
		CAPACITORS
C201	DF1747301	Mylar, 0.047μF ±20%
C202	DF1747301	Mylar, 0.047μF ±20%
C203	EM4740251	Elect., 0.47μF, 25V
C204	EM4740251	Elect., 0.47μF, 25V
C205	DF1722201	Mylar, 0.0022μF ±20%
C206	DF1722201	Mylar, 0.0022μF ±20%
C207	DF1722301	Mylar, 0.022μF ±20%
C208	DF1722301	Mylar 0.022μF ±20%
		RESISTORS (All resistors are ±10%, ¼W and carbon type, unless otherwise indicated.)
R001	RT1039314	39KΩ
R002	RT1039314	39KΩ
R003	RT1022414	220KΩ
R004	RT1022414	220KΩ
R005	RT1010314	10KΩ
R006	RT1010314	10KΩ
R007	RT0522314	22KΩ ±5%, ¼W
R008	RT1010314	10KΩ
R009	RT1010314	10KΩ
R010	RT0522314	22KΩ ±5%, ¼W
R011	RT1010314	10KΩ
R012	RT1010314	10KΩ
R013	RT1068114	680Ω
R014	RT1068114	680Ω
R015	RM0503044	Variable, 50KΩ (A) x 2, Volume
R016	RT1082114	820Ω
R017	RT1082114	820Ω
R018	RK0203021	Variable, 20KΩ, Balance
R020	RT1022114	220Ω
R021	RT1022114	220Ω
R023	RT0582314	82KΩ ±5%, ¼W
R024	RT0582314	82KΩ ±5%, ¼W

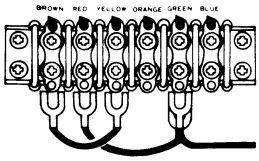
REF. DESIG.	PART NO.	DESCRIPTION
		CAPACITORS
C001	DD1650101	Ceramic, 500pF ±20%
C002	DD1650101	Ceramic, 500pF ±20%
C003	EM4740251	Elect., 0.47μF, 25V
C004	EM4740251	Elect., 0.47μF, 25V
C005	DF1722380	Mylar, 0.022μF, 1000V DC
C006	DK1710301	Ceramic, 0.01μF ±20%
		MISCELLANEOUS
S001	SS0202017	Phono Selector Switch
S002	SR0403008	Function Switch
S003	SP0403004	Speaker, Tape Mon., Loudness Switch
S004	SP0201011	Power Switch
J001	YT0210001	Terminal
J002	YJ0200007	Lamp Socket
J006	YJ0400032	AC Outlet Jack
J007	YJ0100069	Headphone Jack
J008	YJ0108002	Terminal
J009	YL0105003	5P Lug Terminal
J010	YL0301020	Ground Terminal
J011	YL0105003	5P Lug Terminal
J012	YL0105003	5P Lug Terminal
J013	YJ0800009	Fuse Holder
J014	YL0106004	Terminal
J015	YJ1100001	DIN Socket
M001	IN1006006	Lamp, 6V, 60mA
L002	TS1660113	Power Transf.
F003	FS1030004	Fuse, 3A, 250V
W003	YB0027001	Wiring Materials
W004	YB0007001	Wiring Materials
W005	YB0007001	Wiring Materials
W007	YC0190003	AC Cord

VOLTAGE CONVERSION

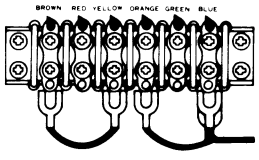
This model is equipped with a universal power transformer to permit operation at 110, 120, 220, 240 Volts AC 50/60 Hz.

To convert the unit to the required voltage, change the jumper wires as illustrated .

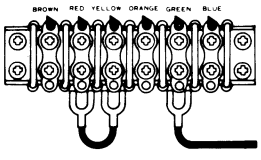
CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.



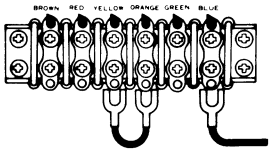
For 110V Operation



For 120V Operation



For 220V Operation



For 240V Operation

Voltage Conversion Chart